

FFFFFF	000000	RRRRRRR	000000	PPPPPPP	NN	NN
FFFFFF	000000	RRRRRRR	000000	PPPPPPP	NN	NN
FF	00	00	RR	00	PP	NN
FF	00	00	RR	00	PP	NN
FF	00	00	RR	00	PP	NNNN
FF	00	00	RR	00	PP	NNNN
FFFFFF	00	00	RRRRRRR	00	PPPPPPP	NN NN
FFFFFF	00	00	RRRRRRR	00	PPPPPPP	NN NN
FF	00	00	RR	00	PP	NNNN
FF	00	00	RR	00	PP	NNNN
FF	00	00	RR	00	PP	NN
FF	00	00	RR	00	PP	NN
FF	00	00	RR	00	PP	NN
FF	000000	RR	000000	PP	NN	NN
FF	000000	RR	000000	PP	NN	NN

RRRRRRR	EEEEEEEEE	QQQQQ
RRRRRRR	EEEEEEEEE	QQQQQ
RR RR	EE	QQ
RR RR	EEEEEEEEE	QQQQ
RR RR	EEEEEEEEE	QQQQ
RR RR	EE	QQ
RR RR	EEEEEEEEE	QQQQ
RR RR	EEEEEEEEE	QQQQ

This file, FOROPN.REQ, defines the VAX-11 FORTRAN OPEN, CLOSE and INQUIRE keywords and literal values. Edit: \$BL1023

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0-21 - Move parameter encoding symbols for FOR\$SI0BEG to FPAR. TNH 30-May-78
0-22 - And symbol for statement types. TNH 30-May-78
0-23 - Change name to FOROPN.REQ JBS 14-NOV-78
1-001 - Increment version number and add copyright notice JBS 16-NOV-78
1-002 - Add Some symbolics to define the special LUN numbers for Basic
PRINT, INPUT, READ. DGP 05-Dec-78
1-003 - Add necessary symbolics for ISAM. SBL 06-Dec-78
1-004 - Change file name from FOROPN.REQ to OTSOPN.REQ. JBS 06-DEC-78
1-005 - Remove the statement type constants. Moved to LUB. DGP 06-Dec-78
1-006 - Change back to FOROPN. Move more constants to LUB. DGP 08-Dec-78
1-007 - Fix some comments to reflect the change back to FOROPN. JBS 12-DEC-78
1-008 - Add DISP='SUBMIT'. SBL 09-Feb-1979
1-009 - Change ORG IND to ORG IDX. Add new arg type. SBL 03-Apr-79
1-010 - Add new definitions for ISAM. SBL 6-Apr-79
1-011 - Give BLANK= literal values. SBL 12-Apr-79
1-012 - Add OPEN\$K DIS SUDE and OPEN\$K DIS PRDE. SBL 19-Apr-79
1-013 - Add OPEN\$K IOSTAT_L. SBL 27-Apr-79
1-014 - Add INQUIRE keywords. SBL 27-Apr-79
1-015 - Because OPEN and CLOSE use the IOSTAT keywords, make the
symbols that control the size of their keyword arrays
cover them. JBS 01-MAY-1979
1-016 - Reassign INQUIRE keywords. SBL 01-May-1979
1-017 - Add INQUIRE keyword values for ORGANIZATION, RECORDTYPE
and KEYED. SBL 2-Aug-1979
1-018 - Add OPEN\$K ARG B.R. SBL 7-August-1979
1-019 - Remove PRINT statement, for new BLISS compiler. JBS 02-OCT-1979

1-020 - Add CARRIAGECONTROL for INQUIRE. SBL 4-Dec-1979
 1-021 - ISAM KEY positions in the OPEN arg list are signed longwords, not words. The key length should be an unsigned byte. SBL 12-Mar-1980
 1-022 - Add OPEN\$K_DEFAULTF and INQ\$K_DEFAULTF. JAW 30-Jun-1981
 1-023 - Add STREAM, STREAM_CR and STREAM_LF values for RECORDTYPE. SBL 1-Mar-1983

--
 + Define symbols for FORTRAN OPEN keywords of form: OPEN\$K_symbol
 Define literal values of form: OPEN\$K_abc_xyz where abc is
 first three letters of keyword and xyz are the first three
 letters of the literal.
 Define symbols in alphabetical order.
 !-

LITERAL

OPEN\$K_ACCESS = 4,	ACCESS	
OPEN\$K_ACC_DIR = 1,	= 'DIRECT'	
OPEN\$K_ACC_SEQ = 2,	= 'SEQUENTIAL'	
OPEN\$K_ACC_APP = 3,	= 'APPEND'	
OPEN\$K_ACC_KEY = 4,	= 'KEYED'	
OPEN\$K_ASSOCIAT = T7,	ASSOCIATEDVARIABLE	
OPEN\$K_ASSOC_L = 0,	1 if associated variable is a longword 0 if just a word. Note: this parameter is not generated by the compiler! It is needed after all keywords are converted to 32-bit values.	
OPEN\$K_BLANK = 24,	BLANK	
OPEN\$K_BLK_ZER = 1,	= 'ZERO'	
OPEN\$K_BLK_NUL = 2,	= 'NULL'	
OPEN\$K_BLOCKSIZ = T8,	BLOCKSIZE	
OPEN\$K_BUFFERCO = 9,	BUFFERCOUNT	
OPEN\$K_CARRIAGE = 7,	CARRIAGE CONTROL	
OPEN\$K_CAR_FOR = 1,	= 'FORTRAN'	
OPEN\$K_CAR_LIS = 2,	= 'LIST'	
OPEN\$K_CAR_NON = 3,	= 'NONE'	
OPEN\$K_DEFAULTF = 26,	DEFAULTFILE	
OPEN\$K_DISPOSE = 2,	DISPOSE	
OPEN\$K_DIS_SAV = 1,	= 'SAVE'	
OPEN\$K_DIS_DEL = 2,	= 'DELETE'	
OPEN\$K_DIS_PRI = 3,	= 'PRINT'	
OPEN\$K_DIS_SUB = 4,	= 'SUBMIT'	
OPEN\$K_DIS_PRDE = 5,	= 'PRINT/DELETE'	
OPEN\$K_DIS_SUDE = 6,	= 'SUBMIT/DELETE'	
OPEN\$K_ERR = 3,	ERR	
OPEN\$K_EXTENDSIZ = 11,	EXTENDSIZE	
OPEN\$K_FORM = 5,	! FORM	
OPEN\$K_FOR_FOR = 1,	= 'FORMATTED'	
OPEN\$K_FOR_UNF = 2,	= 'UNFORMATTED'	
OPEN\$K_FOR_UNS = -1,	= 'UNSPECIFIED'	
OPEN\$K_INITIALS = 10,	Note: this is not generated by compiler. It is used by default OPEN only.	
OPEN\$K_IOSTAT = 22,	INITIALSIZE	
OPEN\$K_IOSTAT_L = 25,	IOSTAT	
	1 if IOSTAT is a longword,	
	0 if a word. This is not generated	

```

OPEN$K_KEY = 23,           ! by the compiler.
OPEN$K_MAXREC = 16,
OPEN$K_NAME = 14,
OPEN$K_NOSPANBL = 12,
OPEN$K_USEROPEN = 21,
OPEN$K_ORGANIZA = 19,
  OPEN$K_ORG_SEQ = 1,
  OPEN$K_ORG_REL = 2,
  OPEN$K_ORG_IDX = 3,
  OPEN$K_ORG_HAS = 4,
  OPEN$K_ORG_STR = 5,
OPEN$K_READONLY = 8,
OPEN$K_RECORDTY = 20,
  OPEN$K_REC_FIX = 1,
  OPEN$K_REC_VAR = 2,
  OPEN$K_REC_SEGM = 3,
  OPEN$K_REC_STM = 4,
  OPEN$K_REC_STMCR = 5,
  OPEN$K_REC_STMLF = 6,
OPEN$K_RECORDSI = 8,
OPEN$K_SHARED = 13,
OPEN$K_TYPE = 15,
  OPEN$K_TYP_OLD = 1,
  OPEN$K_TYP_NEW = 2,
  OPEN$K_TYP_SCR = 3,
  OPEN$K_TYP_UNK = 4,
OPEN$K_UNIT = 7.

```

```

KEY
MAXREC
NAME
NOSPANBLOCKS
USEROPEN
ORGANIZATION
= 'SEQUENTIAL'
= 'RELATIVE'
= 'INDEXED'
= 'HASHED'
= 'STREAM'
READONLY
RECORDTYPE
= 'FIXED'
= 'VARIABLE'
= 'SEGMENTED'
= 'STREAM'
= 'STREAM CR'
= 'STREAM LF'
RECORDSIZE
SHARED
TYPE
= 'OLD'
= 'NEW'
= 'SCRATCH'
= 'UNKNOWN'
UNIT

```

```

OPEN$K_KEY_MAX = OPEN$K_DEFAULTF, ! Max. open parameter
CLOS$K_KEY_MAX = OPEN$K_DEFAULTF; ! Max. CLOSE parameter

```

Key numbers 27-29 are reserved for future OPEN/CLOSE use.

INQUIRE keyword definitions

LITERAL

INQ\$K_FILE = OPEN\$K_NAME,	Input file name
INQ\$K_DEFAULTF = OPEN\$K_DEFAULTF,	Defaultfile
INQ\$K_UNIT = OPEN\$K_UNIT,	Input unit number
INQ\$K_IOSTAT = OPEN\$K_IOSTAT,	IOSTAT
INQ\$K_IOSTAT_L = OPEN\$K_IOSTAT_L,	1 if IOSTAT is a longword 0 if a word
INQ\$K_ERR = OPEN\$K_ERR,	1 if ERR= present
INQ\$K_EXIST = 30,	File exists?
INQ\$K_OPENED = 31,	File opened?
INQ\$K_NUMBER = 32,	Open on what unit?
INQ\$K_NAMED = 33,	Does it have a name?
INQ\$K_NAME = 34,	What's its name?
INQ\$K_ACCESS = 35,	Access mode?
INQ\$K_SEQUENTIAL = 36,	Is it sequential?
INQ\$K_DIRECT = 37,	Is it direct?

```

INQ$K_FORM = 38.          ! What's the form?
INQ$K_FORMATTED = 39.    ! Formatted?
INQ$K_UNFORMAT = 40.      ! Unformatted?
INQ$K_RECL = 41.          ! What's the recordsize?
INQ$K_NEXTREC = 42.       ! What's the next record
INQ$K_BLANK = 43.          ! What are blanks?
INQ$K_ORGANIZAT = 44.     ! What's the organization?
INQ$K_RECORDTYP = 45.      ! What's the recordtype?
INQ$K_KEYED = 46.          ! KEYED allowed?
INQ$K_CARRIAGE = 47.       ! What's the carriage control?

INQ$K_KEY_MAX = INQ$K_CARRIAGE;

```

```

!+ Define FORTRAN OPEN argument type codes.
! Used in field OPEN$B_ARG_TYPE
!-

```

LITERAL

```

OPEN$K_ARG_NULL = 0.        ! keyword with no value
OPEN$K_ARG_LIT = 1.          ! literal value in W_INFO WORD
OPEN$K_ARG_W_V = 2.          ! expression in W_INFO_WORD
OPEN$K_ARG_W_R = 3.          ! next actual is adr. of word
OPEN$K_ARG_L_V = 4.          ! next actual is longword value
OPEN$K_ARG_L_R = 5.          ! next actual is adr. of longword value
OPEN$K_ARG_TZ_R = 6.          ! next actual is adr. of ASCII string
                             ! (needed for compatibility descriptor
                             ! is the preferred form)
OPEN$K_ARG_T_DS = 7.          ! next actual is adr. of string descriptor
OPEN$K_ARG_ZI = 8.          ! next actual is proc. adr.
OPEN$K_ARG_INLN = 9.          ! next INFO_WORD longwords are arg.
OPEN$K_ARG_B_R = 10.         ! next actual is address of byte

OPEN$K_ARG_MAX = OPEN$K_ARG_B_R;    ! max. arg type code

```

```

!+ Define fields within FORTRAN OPEN parameters
!-

```

MACRO

```

OPEN$B_KEY      = 0,0,8,0 %,    ! keyword code. Codes are of form:
OPEN$B_ARG_TYPE = 0,8,8,0 %,    ! OPEN$K_keyname
OPEN$W_INFO     = 0,16,16,1 %,  ! arg type code. Codes are
                               ! of form: OPEN$K_ARG_type
OPEN$A_VALUE    = 0,0,%BPADDR,0 %, ! 16-bit information.
                               ! sign extend to 32-bits.
OPEN$G_VALUE    = 0,0,%BPVAL,0 %, ! Address of value - in next
                               ! position in parameter list
                               ! General value - in next
                               ! position in parameter list

```

```

!+ Macros and literals for KEY= keyword and for ISAM
!-

```

LITERAL

OPENSK_XAB_SIZE = XABSC_KEYLEN + 4;

MACRO

OPENSB_DTYPE = 0,0,8,0%; ! Key datatype in OPEN list
OPENSL_KEY_LO = 4,0,32,1%; ! Low key position in OPEN list
OPENSL_KEY_HI = 8,0,32,1%; ! High key position in OPEN list
OPENSB_KTYPE = XABSC_KEYLEN,0,8,0%; ! Saved datatype
OPENSB_SIZE = XABSC_KEYLEN,8,8,0%; ! Saved key size
OPENSW_POS0 = XABSC_KEYLEN,16,16,0%; ! Saved low position

!+ Max. length of ASCII string for FORTRAN OPEN file name array

LITERAL

OPENSK_STR_MAX = 100; ! Max. length of an ASCII string
! (arg type TZ_R only). No limit
! for string descriptor strings!+ Constants used in parameter encoding between the I/O statement routines
! and routine FOR\$S10_BEG. The codes are
! both bit positions in the flag word and an index into
! a table used for sorting out the parameters.
! All are optional for some I/O statement.
!-

LITERAL

K_UNIT = 0; ! user supplied unit number
K_CHAR_COUNT = 1; ! size of user supplied record for EN/DECODE
K_REC_NO = 2; ! user supplied record number
K_FMT_ADDR = 3; ! user supplied format address
K_USR_BUF_ADDR = 4; ! user supplied buffer for EN/DECODE
K_OBJ_TIME_FMT = 7; ! bit says object time format

! End of file FOROPN.REQ

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VAX/VMS V4.0

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